

L37 ANSWER 3 OF 10 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1999-511524 [43] WPIX  
 DNN N1999-381400  
 TI Gradient **magnetic** field generating system in **magnetic**  
 resonance imaging apparatus using nuclear **magnetic** resonance  
 spectroscopy - has pair of **coils** to which current is supplied  
 from **power supplies**, for generating gradient  
**magnetic** field **independently**.  
 DC P31 S01  
 PA (SHMA) SHIMADZU CORP  
 CYC 1  
 PI JP 11221200 A (19990817) (199943)\* 5p A61B005-055  
 ADT JP 11221200 A JP 1998-39710 19980205  
 PRAI JP 1998-39710 19980205  
 IC ICM A61B005-055  
 ICS G01R033-389  
 AB JP 11221200 A UPAB: 19991020  
 NOVELTY - Current is supplied from power **supplies** (21,22) to  
 pair of **coils** (12,13) for generating gradient **magnetic**  
 field **independently**. **Current** passed to each  
**coil** is **controlled** by a controller (23).  
 USE - In **magnetic** resonance imaging apparatus using  
**NMR** spectroscopy.  
 ADVANTAGE - Eccentricity of **magnetic** field center  
 stipulated by gradient **magnetic** field is performed arbitrarily.  
 DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of  
**MR** imaging apparatus. (12,13) **Coils**; (21,22)  
**Power supplies**; (23) **Controller**.  
 Dwg.1/6  
 FS EPI GMPI  
 FA AB; GI  
 MC EPI: S01-E02A

Aug 17, 1999

## Gradient Coils

L45 ANSWER 1 OF 1 JAPIO (C) 2004 JPO on STN  
 AN 1999-221200 JAPIO  
 TI MR IMAGING DEVICE  
 IN MIURA YOSHIKI  
 PA SHIMADZU CORP  
 PI JP 11221200 A 19990817 Heisei  
 AI JP 1998-39710 (JP10039710 Heisei) 19980205  
 PRAI JP 1998-39710 19980205  
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999  
 IC ICM A61B005-055  
 ICS G01R033-389  
 AB PROBLEM TO BE SOLVED: To dislocate the center of magnetic field specified by an inclined magnetic field to any eccentric position.  
 SOLUTION: A pair of inclining coils 12 and 13 to form an inclined magnetic field is supplied with a current from two inclination power supplies 21 and 22 which are controllable independently, and the currents supplied are changed to any values by a controller 23, and thereby the center of the magnetic field (position where the intensity of the synthetic inclined magnetic field becomes zero) synthesized by the two coils 12 and 13 is shifted.  
 COPYRIGHT: (C)1999, JPO

"inclining" is  
mistranslation of "gradient"

See attached DWPI abstract.

51/3,AB,K/6 (Item 1 from file: 347)

DIALOG(R) File 347:JAPIO

05652094

MAGNETIC RESONANCE INSPECTING SYSTEM AND METHOD

PUB. NO.: 09-266894 [JP 9266894 A]

PUBLISHED: October 14, 1997 (19971014)

INVENTOR(s): TSUDA MUNETAKA

APPLICANT(s): HITACHI MEDICAL CORP [420143] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 08-079112 [JP 9679112]

FILED: April 01, 1996 (19960401)

#### ABSTRACT

PROBLEM TO BE SOLVED: To provide an MRI system which reduces image distortions to enable high-speed photographing technique, fat-signal-control photographing technique, and high-resolution spectrum measuring technique by enhancing the substantial uniformity of a static magnetic field inside the human body.

SOLUTION: A plurality of shim coils 102 and inclined field coils 104 have **respective independent power sources** 103, 105 connected thereto. The power sources are controlled in action by a calculator 112 to correct the uniformity of a static magnetic field produced by magnets. The power sources 103, 105 thus drive the coils with currents obtained by the combination of direct and alternating currents, producing a corrected rotating magnetic field. Therefore, the uniformity of the static magnetic field at the examined part of the examinee 108 can be substantially enhanced.

INTL CLASS: A61B-005/055; G01R-033/385

L37 ANSWER 3 OF 10 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN  
 AN 1999-511524 [43] WPIX  
 DNN N1999-381400  
 TI Gradient **magnetic** field generating system in **magnetic**  
 resonance imaging apparatus using nuclear **magnetic** resonance  
 spectroscopy - has pair of **coils** to which current is supplied  
 from **power supplies**, for generating gradient  
**magnetic field independently**.  
 DC P31 S01  
 PA (SHMA) SHIMADZU CORP  
 CYC 1  
 PI JP 11221200 A (19990817) (199943)\* 5p A61B005-055  
 ADT JP 11221200 A JP 1998-39710 19980205  
 PRAI JP 1998-39710 19980205  
 IC ICM A61B005-055  
 ICS G01R033-389  
 AB JP 11221200 A UPAB: 19991020  
 NOVELTY - Current is supplied from power **supplies** (21,22) to  
 pair of **coils** (12,13) for generating gradient **magnetic**  
 field **independently**. Current passed to each  
 coil is **controlled** by a controller (23).  
 USE - In **magnetic** resonance imaging apparatus using  
**NMR spectroscopy**.  
 ADVANTAGE - Eccentricity of **magnetic** field center  
 stipulated by gradient **magnetic** field is performed arbitrarily.  
 DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of  
**MR** imaging apparatus. (12,13) **Coils**; (21,22)  
**Power supplies**; (23) **Controller**.  
 Dwg. 1/6  
 FS EPI GMPI  
 FA AB; GI  
 MC EPI: S01-E02A

Aug 17, 1999

31/3,AB,K/6 (Item 1 from file: 347)

DIALOG(R) File 347:JAPIO

05652094

MAGNETIC RESONANCE INSPECTING SYSTEM AND METHOD

PUB. NO.: 09-266894 [JP 9266894 A]

PUBLISHED: October 14, 1997 (19971014)

INVENTOR(s): TSUDA MUNETAKA

APPLICANT(s): HITACHI MEDICAL CORP [420143] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 08-079112 [JP 9679112]

FILED: April 01, 1996 (19960401)

#### ABSTRACT

PROBLEM TO BE SOLVED: To provide an MRI system which reduces image distortions to enable high-speed photographing technique, fat-signal-control photographing technique, and high-resolution spectrum measuring technique by enhancing the substantial uniformity of a static magnetic field inside the human body.

SOLUTION: A plurality of shim coils 102 and inclined field coils 104 have **respective independent power sources 103**, 105 connected thereto. The **power sources** are **controlled** in action by a calculator 112 to correct the uniformity of a static magnetic field produced by magnets. The **power** sources 103, 105 thus drive the **coils** with currents obtained by the combination of direct and alternating currents, producing a corrected rotating magnetic field. Therefore, the uniformity of the static magnetic field at the examined part of the examinee 108 can be substantially enhanced.

INTL CLASS: A61B-005/055; G01R-033/385